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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/355,705	11/05/99	KOSTER	H 24743-2303US

STEPHANIE SEIDMAN  
HELLER EHRMAN WHITE & MCAULIFFE  
4250 EXECUTIVE SQUARE  
7TH FLOOR  
LA JOLLA CA 92037

HM12/0103

EXAMINER
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HOUTTEMAN, S

ART UNIT	PAPER NUMBER
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1656

DATE MAILED:

01/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/355,705

Applicant(s)  
Koster et al.

Examiner  
Scott Houtteman

Group Art Unit  
1656



☐ Responsive to communication(s) filed on \_\_\_\_\_

☐ This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

- ☒ Claim(s) 1-51 and 53-56 is/are pending in the application.
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-51 and 53-56 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- ☐ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) Filed 12/23/99
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

1. Claims 1-51 and 53-56 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 1-51 and 53-56 are indefinite in that there are two definitions of "support." The whole invention is defined as the "support" in the preamble "An insoluble support comprising" and yet "support:" is also a component of the invention "... linked to the support." The first version of the claims, in which the whole invention is referred to as "A composition" does not have this problem.

B. The claims are indefinite in the recitation "reversible linkage." Every linkage is reversible under some conditions. The carbon-carbon covalent bonds are easily reversible in various organic chemical reactions. The claims, however, do not specify what kinds of conditions are required. Consequently, it is unclear what types of "linkages" are considered "reversible." Perhaps the claims could be amended to reflect a relative ease of removal. For example the concept of "leaving groups" implies that a side group can be readily removed without altering the central molecule. Of course support in the specification must be pointed out for any amendment.

C. The components of the claimed invention are indefinite. It is unclear whether the invention is limited to one, two, three or four basic components. On the one hand, there is a suggestion of four components. The claims do recite four components, two linkages and two biopolymers. On the other hand, the claims do not specify whether these "components" can be found within the same molecule. For example, a nucleic acid is a biopolymer. Nucleic acids, however, can be linked directly to a support. In that case the bond on the nucleic acid attaches

the rest of the nucleic acid to the support and thus can be a "linkage." Furthermore, the first and second biopolymers can be different segments of the nucleic acid. Thus, a single nucleic acid attached to a surface can meet the limitations of these claims.

Furthermore, the chemical composition of the "support" is unspecified except for the broad limitation "insoluble." Nucleic acid is "insoluble" in an alcohol solution. The claims do not specifically exclude alcohol solutions. Therefore, the "support" can also be a region of the nucleic acid.

Accordingly, without more specificity about the chemical identity of the various structures of the "support," "biopolymers" and "linkages" and the points of attachment of the linkers on these biopolymers, the nature of the claimed composition is unclear.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

1-511-53-56

3. Claims ~~1-56~~ are rejected under 35 U.S.C. § 103(a) as being unpatentable over Monforte et al. US Pat. 5,700,642 (12/1997)(Monforte).

Monforte discloses an insoluble support, two biopolymers and "one reversible linkage." See for example Fig. 6B, "photolysis" Monforte, col. 12, lines 27-46

4. The claims differ from Monforte in the recitation of "two biopolymers." However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to consider the nucleic acids on either side of the "X" See Monforte fig. 6B. As two biopolymers. This is because, after cleavage, two products are formed.

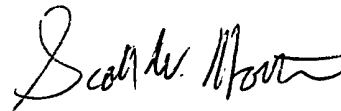
5. Papers relating to this application may be submitted to Technology Center 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 1600 Fax numbers are (703) 305-3014 and 308-4242.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Houtteman whose telephone number is (703) 308-3885. The examiner can normally be reached on Tuesday-Friday from 8:30 AM - 5:00 PM. The examiner can also be reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached at (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0196.

Scott Houtteman  
December 4, 2000



SCOTT W. HOUTTEMAN  
PRIMARY EXAMINER